

To: ETSI MEMBERS AND COUNSELLORS

Subject: Participating to ISGs without having to sign an ISG Member Agreement

Dear Madam,
Dear Sir,

Further to the decision taken during the Specially Convened Meeting (SCM) of the ETSI General Assembly (GA#80 / 29-30 Nov. 2022), to allow any ETSI Full or Associate member to participate in the activities of an ETSI Industry Specification Group (ISG) without having to sign an ISG Member Agreement, I am very pleased to invite you to go through the following interim process should your organization or your Corporate Group wishes to immediately join an ISGⁱ:

The Official Contact of the ETSI member organization or Corporate Group wishing to join one or several ISGs, shall send an email to isg_agreements@etsi.org with

- i. **First name, last name of the Official Contact** as recorded in the ETSI database;
- ii. **Acronym of the ISG** of interest,
- iii. **Legal name(s) of the organization(s)** to be added as member(s) of the ISG of interest.

Note: In case of interest for several ISGs, please repeat steps ii. and iii. in the same email.

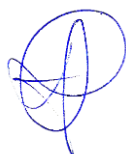
Upon reception of the request, the ETSI Secretariat will add the listed organization(s) to the relevant ISG membership and will notify both the Official Contact and the Technical Officer supporting the relevant ISG(s).

Once the above steps have been completed, any delegate of the said organization(s), already owning a personal EOL account, will be immediately entitled to subscribe to the relevant ISG email exploder list and/or to register to any upcoming meeting of the ISG.

Those delegates who do not own a personal EOL account yet, will be immediately entitled to request one via the [SIGN UP](#) feature available from the [ETSI Portal](#).

NOTE: the above interim process, which currently aims at immediately replacing the administrative burden of signing a Member Agreement to join an ISG, will disappear as soon as the ETSI Portal and the related applications will be adapted by the ETSI IT Department to make the participation of ETSI Full and Associate members to ISGs as transparent and easy as for Technical Bodies.

Yours faithfully,



Luis Jorge Romero Saro
ETSI Director-General

ⁱ No need to go through steps i to iii for the ISG(s) you are already member of.

ETSI Industry Specification Group relating to 'Network Functions Virtualization' (NFV)

between

The European Telecommunications Standards Institute (hereinafter referred to as "ETSI"), a French non-profit making association organized under the law of July 1, 1901, located at 650 Route des Lucioles, 06560 Valbonne Sophia Antipolis, France, represented by its Director-General, (hereinafter referred to as the "Director-General")

and

The ISG Member specifically identified in **Annex 1** hereof (hereinafter referred to as the "Signatory").

Whereas:

- A. ETSI is a standard-setting organization in the field of telecommunications, officially recognized by the European Union as a European Standards Organisation;
- B. The Signatory is, either i) an ETSI Full or Associate member wishing to participate in the work of the ISG identified in Annex 2 hereof (hereinafter, the "ISG"), or ii) has applied for ETSI Full or Associate membership and has been authorized by the Director-General to participate in the work of the ISG;
- C. The Director-General has approved the creation of the ISG and its Terms of Reference as attached in **Annex 4** hereafter;
- D. The Signatory wishes to participate in the work of the ISG as an ISG Member (as this term is defined in **1.2(e)** below) in accordance with Clause 3.4 of the ETSI Technical Working Procedures and has agreed to enter into and be bound by the terms of the present Agreement which cancels and replaces the previous ISG NFV Member Agreement.

It is agreed as follows:

1. Incorporation by reference and definitions

1.1. Incorporation by reference

Subject to Discretionary Decisions, the decision-making processes set forth in **Article 8** of the present Agreement and any authorized deviations from the ETSI Technical Working Procedures provided under **Annex 3** of the present Agreement, the parties hereby agree to be bound by and comply with the terms and rules relating to the creation, organization, operation and termination applicable to Industry Specification Groups set forth in the [ETSI Directives](#), including the ETSI Guidelines for Antitrust Compliance which shall be incorporated by reference and form an integral part hereof.

1.2. Definitions

In the present Agreement, all capitalized terms and expressions not otherwise defined herein shall have the meaning ascribed to them in the [ETSI Directives](#), and, unless otherwise required by the context:

- (a) "Discretionary Decisions" shall have the meaning ascribed to it in Article 8.1 of the present Agreement;
- (b) "ETSI Directives" shall mean the set of documents ruling ETSI available at <http://portal.etsi.org/directives/home.asp> and applicable on the date set forth in **Annex 2** hereof as well as their subsequent versions and evolutions adopted during the lifetime of the ISG;
- (c) "ETSI IPR Policy" shall have the meaning ascribed to it in **Article 2** of the present Agreement;
- (d) "ETSI Technical Working Procedures" shall mean the document in the [ETSI Directives](#) which apply to the present Agreement;

- (e) "ISG Member" shall mean, when used in relation to the ISG, either an ETSI Full or Associate member or an applicant to ETSI Full or Associate membership which has been authorized by the Director-General to participate in the work of the ISG and which has signed the ISG Member Agreement;
- (f) "ISG Participant" shall mean, when in relation to the ISG, either an ETSI Observer or a legal entity which, even though it is not an ETSI Full or Associate member or an applicant to ETSI Full or Associate membership, has been authorized by the Director-General to participate in the work of the ISG and which has signed the ISG Participant Agreement;
- (g) "Terms of Reference" shall mean those Terms of Reference approved by the Director-General on the date set forth in Annex 2 hereof as well as their subsequent versions and evolutions adopted during the lifetime of the ISG, setting out, inter alia, the scope of the ISG, the planned deliverables and delivery dates, and the planned collaboration with other bodies;
- (h) "Attendee" shall mean any individual
 - participating face-to-face or remotely in an ISG meeting; or
 - participating in an online ISG meeting; or
 - participating in the work of the ISG by using (non-real-time) electronic working methods;
- (i) "Counsellor" shall mean the representatives of the European Commission (EC) as well as representatives of the Secretariat of the European Free Trade Association (EFTA). ETSI Counsellors may attend ISG meetings without signing any ISG Agreements or paying any participation fees;
- (j) "Observer" shall mean a legal person fulfilling the conditions for ETSI Full member or Associate member status but choosing not to have the right to participate fully in the proceedings of the Institute;
- (k) "Group Specification" (GS) shall mean an ETSI deliverable, containing normative provisions, approved for publication by an ISG;
- (l) "Group Report" (GR) shall mean an ETSI deliverable, containing only informative elements, approved for publication by an ISG;
- (m) "Business Day" shall be considered as every French official working day of the week.

2. Intellectual Property

The Signatory agrees to the terms of, and shall abide by, the ETSI IPR Policy set forth in Annex 6 of the [ETSI Rules of Procedure](#) and their subsequent versions and evolutions (hereinafter, the "ETSI IPR Policy").

3. ISG membership: duties and rights

The ISG membership comprises ISG Members and ISG Participants.

ISG Members and ISG Participants have the duty to constructively cooperate in compliance with all applicable competition law rules on the development of ISG Group Reports and/or ISG Group Specifications within the scope of the ISG as described in its Terms of Reference.

The ISG Chair is responsible for both external communication and internal reporting obligations to ETSI.

Any communication outside the ISG itself by the ISG Chair and/or by the ISG Members and ISG Participants shall be made in coordination with the Director-General.

It is accepted that an ISG can have its own valuable opinion which can differ from ETSI's opinion. Therefore in case of external communication, the ISG Chair shall ensure that such communication is clearly made by the ISG and marked as such for avoiding any confusion of representation with ETSI. In the case of a public consultation, the ISG Chair shall beforehand coordinate with the Director-General.

When a response to such public consultation is envisaged, if the response is addressing technical matters the ISG Chair shall ensure that such response is clearly specified as coming from the ISG and differentiated from ETSI's answer.

If the response is addressing non-technical matters, such response shall be reviewed by the Director-General.

ISG Members have the right to cast their vote on the approval of an ISG Group Report or Group Specification when necessary, and in other instances when decisions by the ISG Members are required.

ISG Members have the right to appeal directly to the Director-General to challenge an ISG Chair's decision and shall inform the ISG Chair beforehand.

4. ISG participation fee

ISG Members are not required to pay an individual participation fee for attending ISG meetings.

For information of the ISG Members, ISG Participants are required to pay an individual participation fee for attending ISG face-to-face meetings as described in **Annex 5** of the ISG Participant Agreement.

This individual participation fee may be modified by a decision of the Director-General. Such a decision shall be notified by the Director-General to the ISG Chair and becomes effective as from the date of the notification by the ISG Chair to the ISG.

5. ETSI Secretariat resources

Basic administrative support will be provided by the ETSI Secretariat at no additional cost to the ISG Members and ISG Participants e.g.:

- info/meeting/document handling area on the ETSI Portal;
- document storage area on the ETSI Docbox server;
- e-mail lists provision;
- entry of the Work Items into the ETSI Work Program Management (WPM) database;
- processing/publication of ISG Group Reports and/or Group Specifications, provided they have respected the ETSI Drafting Rules;
- a support officer will be allocated to provide guidance and assistance to the ISG;
- support for meetings will be provided when the meeting is held at the ETSI Headquarters, e.g.
 - meeting rooms in ETSI premises;
 - meeting support for invitations, badges, etc in ETSI premises;
 - refreshments in ETSI premises.

ISG meetings held outside of the ETSI Headquarters shall be supported by the hosting organization.

In addition, the ETSI Secretariat may support the ISG in organizing workshops and possible interoperability events.

5.1. Additional administrative support

The ISG Chair may request that the ISG receive additional administrative support from the ETSI Secretariat, provided that the Director-General agrees and

- either the ISG Members and ISG Participants agree to provide voluntary contributions to cover the costs of such additional support and the ETSI Secretariat shall only provide the requested

additional administrative support after receipt by ETSI of all payments corresponding to such contributions,

- or resources corresponding to such additional support are approved by the ETSI Board upon petition by the ISG Chair.

5.2. Resources requirements

Extended support has been granted by the ETSI Board to ISG NFV [ETSI/BOARD(13)91_028]. This support goes beyond the “Basic administrative support” provided by the ETSI Secretariat. Further resource requirements may be identified from time to time by the ISG Members, who will decide on the funding arrangements as required.

6. Convening an ISG meeting

6.1. Invitation to an ISG meeting

The invitation to an ISG face-to-face meeting and the necessary logistical information shall be disseminated by the hosting organization at least thirty (30) days before the meeting to all on the ISG membership list.

6.2. Agenda for an ISG meeting

The draft agenda for face-to-face meetings shall be disseminated by the ISG Chair to all on the ISG membership list at least thirty (30) days before a face-to-face meeting.

The draft agenda shall include details of draft ISG Group Reports and/or Group Specifications for approval and ISG Chair/Vice-Chairs and/or Working Group Chairs for appointment.

Any other subject matters where voting may be required shall also be included and indicated in the draft agenda.

ISG Group Reports and Group Specifications will only be approved within ISG face-to-face meetings, or over a period which may extend beyond the end of the ISG face-to-face meeting whereby the ISG Members use electronic voting.

6.3. Documentation for an ISG meeting

All contributions for an ISG meeting shall be uploaded on the ETSI Portal according to the minimum delay decided by the ISG Chair.

Late contributions shall be deferred to the next meeting unless there is a Consensus to make an exception.

Meeting documents shall follow a consistent numbering system as shown in the following example:

ISG(nn)x_filename

This numbering system has the following logical elements:

ISG:	the name of the ISG or related Working Group;
(nn):	to indicate the year, e.g. (18);
x:	to indicate a unique n° of the document, appended with a revision n° if applicable;
filename:	filename of the document.

6.4. Registration for an ISG meeting

Every Attendee shall register prior to a face-to-face or online ISG meeting using the Meeting Application on the ETSI Portal or on arrival at the meeting.

Where registration is made on arrival at the meeting each Attendee representing an ISG Member or an ISG Participant shall declare the precise name of that ISG Member or ISG Participant organization.

An Attendee may only represent one (1) ISG Member or one (1) ISG Participant.

6.5. Maintaining an ISG membership list

The ISG shall maintain an ISG membership list within an email exploder list established specifically for that purpose.

Any individual may join this email exploder list if he/she is a representative of a legal entity that has signed the ISG Member Agreement or the ISG Participant Agreement and has an ETSI-On-Line (EOL) user account, and those who join this email exploder list will be considered as being on the ISG membership list.

Failure to reconfirm the intention to remain on the email exploder list at regular intervals (lists are normally reviewed every six (6) months) will result in removal from this email exploder list and thus from the ISG membership list.

The ISG membership list shall be used for the dissemination of information and for decision-making within the ISG.

7. Preparation of ISG Group Reports (GR) and Group Specifications (GS)

ISG Group Reports and Group Specifications are prepared within the ISG or within specific ISG Working Groups. The ISG Working Groups are chaired by ISG Working Group Chairs, who are appointed according to the rules of operation of the ISG.

All draft ISG Group Reports and ISG Group Specifications should be approved by the ISG Members and ISG Participants according to the ETSI Technical Working Procedures and deviations in **Annex 3** of the present document.

If an ISG Group Report or Group Specification is prepared in an ISG Working Group and fails to be approved by the ISG Members and ISG Participants, it shall be referred back to the ISG Working Group.

8. Decision-making

The Signatory undertakes to comply with all applicable laws and regulations, including European and national competition laws and regulations, and to refrain from implementing any discriminatory decision-making process in the context of the ISG.

8.1. Discretionary Decisions

The ISG shall be operated pursuant to the rules set forth in the ETSI Technical Working Procedures, except any matter which is left at their discretion under the [ETSI Directives](#) (hereafter, the "Discretionary Decisions").

Such decisions will be binding upon the ISG Members and ISG Participants.

8.2. General decision-making process

In accordance with Clause 3.7 of the ETSI Technical Working Procedures, and subject to the provisions of **Article 1.1** of the present Agreement, the Signatory agrees that the Discretionary Decisions taken by the ISG Members and ISG Participants shall be binding upon the Signatory when taken according to the rules laid down in Clause 1.7 of the ETSI Technical Working Procedures, except for any variations provided for in **Annex 3** hereof.

9. Authorized deviations from the ETSI Technical Working Procedures

The ISG shall operate pursuant to the rules set forth in the ETSI Technical Working Procedures, with the exceptions provided in Annex 3 hereof.

10. No assignment

Except by written Agreement by the Director-General, the rights and obligations of the Signatory under the present Agreement are personal to the Signatory and shall not be assigned (whether absolutely or by way of security and whether in whole or in part), sub-contracted, delegated, transferred, pledged, declared in trust for a third party, or otherwise disposed of in any manner whatsoever (each of the above an "assignment") and any such purported assignment in contravention of this Article shall be ineffective.

11. Limitation of liability

ETSI, its officers, employees and agents shall have no liability to the Signatory in respect of any actual or expected loss of profits, loss of revenue, loss of goodwill, loss of opportunity, loss of business, or increased costs or expenses.

The ISG Member shall have no liability to the other signatories in respect of an indirect loss of profits, loss of revenue, loss of goodwill, loss of opportunity, loss of business, or increased costs or expenses.

12. Term and termination**12.1. Date of termination**

The present Agreement shall enter into force as from the date of its execution by the parties and shall remain effective until the earlier of

- (i) the date of termination of the ISG,
- (ii) the date of the Signatory's resignation from the ISG,
- (iii) the date of the Signatory's resignation or expulsion from ETSI,
- (iv) the date of the Signatory's revocation from the ISG if the Signatory commits a material breach of any of its obligations under the present Agreement (including the ETSI Directives incorporated by reference pursuant to Article 1.1 of the present Agreement and the ISG Terms of Reference) and fails to remedy the same within thirty (30) days after receiving notice to do so (hereinafter, the "date of termination").

For the purpose of determining the date of termination:

- (a) the date and conditions of termination of the ISG shall be decided by the Director-General pursuant to Article 8.3.9 of the [ETSI Rules of Procedure](#) and Clause 3.2 of the ETSI Technical Working Procedures;
- (b) the Signatory may resign as ISG Member at any time by sending a resignation notice to the Director-General, copy to the ISG Chair, and the date of the Signatory's resignation from the ISG shall be deemed to be the date of receipt of the resignation notice by the Director-General;
- (c) the date of the Signatory's resignation or expulsion from ETSI shall be determined pursuant to Article 1.4 of the [ETSI Rules of Procedure](#);
- (d) the Director-General may revoke at any time the invitation or authorization to attend meetings of the ISG in the event the Signatory commits a material breach of its obligations under the present Agreement by sending a revocation notice to the Signatory, copy to the ISG Chair, and the date of revocation of the Signatory from the ISG shall be deemed to be the date of receipt of the revocation notice by the Signatory.

12.2. Effect of termination

Upon occurrence of the date of termination, the present Agreement shall automatically terminate, and the Signatory shall cease to participate in the work of the ISG and shall no longer receive any benefit or information as an ISG Participant, it being provided however that termination of the present Agreement for any reason:

- (a) shall be without prejudice to any rights or obligations which shall have accrued or become due prior to the date of termination and the Signatory shall remain bound to duly perform and complete any and all obligations which shall have arisen out of or in connection with the present Agreement prior to the date of termination, including any transfer or license of intellectual property rights (or undertakings to transfer or license intellectual property rights) pursuant to the [ETSI IPR Policy](#) and **Article 2** of the present Agreement;
- (b) shall not affect any right or obligation of any party under the ETSI Directives, which shall continue into force after the termination of the present Agreement (except in the event of the Signatory's resignation or expulsion from ETSI, in which case the provisions of Article 1.4 of the ETSI Rules of Procedure shall apply); and
- (c) shall not prejudice the rights or remedies which any party may have in respect of any breach of the terms of the present Agreement prior to the date of termination.

12.3. Termination of the ISG

In the event of termination of the ISG, the parties agree that the ISG shall, prior to the date of termination of the ISG (as determined pursuant to **Article 12.1(a)** of the present Agreement), submit to the Director-General recommendations concerning the maintenance of Group Reports(s) and/or Group Specification(s) produced by the ISG.

13. Notice

Unless otherwise specified by the Director-General, a notice in connection with the present Agreement shall be in writing, in English, and sent by registered letter with return receipt requested to the address of the addressee, and marked for the attention of the person hereunder. For the avoidance of doubt, such notice shall not be sent by e-mail.

The relevant details of the Signatory are set forth in **Annex 1** hereof and the relevant details of ETSI are as follows:

Addressee: **ETSI, Director-General, 650 route des Lucioles, 06921 Sophia Antipolis Cedex, France**

In the absence of evidence of earlier receipt, a notice shall take effect and be deemed received the seventh day after posting.

A notice received or deemed to be received on a day which is not a Business Day or after 5pm on any Business Day according to local time in the place of receipt, shall be deemed to be received on the next following Business Day.

14. Severance/unenforceable provisions

If any provision or part of the present Agreement is deemed void or unenforceable due to applicable law, it shall be deemed to be deleted and the remaining provisions of the present Agreement shall continue in full force and effect.

15. Variation and waiver

15.1. Variation

Subject to the [ETSI Directives](#) and the ISG Terms of Reference, this Agreement sets forth the entire agreement of the parties with respect to the subject matter hereof. No variation (including any supplement, deletion or replacement, however effected) of the present Agreement shall be effective unless it is in writing.

No sustainable opposition by any ISG Member or ISG Participant will be considered as agreed to said variations which will then be materialized in writing.

15.2. Waiver

The rights and remedies of the parties shall not be affected by any failure to exercise or delay in exercising any right or remedy or by the giving of any indulgence by any party or by anything whatsoever except a specific waiver or release in writing and any such waiver or release shall not prejudice or affect any other rights or remedies of the parties.

No single or partial exercise of any right or remedy prevents any further or other exercise thereof or the exercise of any other right or remedy.

16. Third party beneficiary (“stipulation pour autrui”)

The Signatory shall have sight of and shall accept the terms and conditions provided for the benefit of the ISG Members in any ISG Participant Agreement entered into between ETSI and an ISG Participant. As a result of such acceptance, all provisions of such an ISG Participant Agreement provided for the benefit of the ISG Members, acting individually or collectively, shall be binding upon the ISG Members and may be enforced by the Signatory pursuant to Article 1205 of the French Civil Code.

17. Governing law, jurisdiction and service of process**17.1. Governing law**

This Agreement shall be governed by and interpreted in accordance with French law.

17.2. Jurisdiction

Each party irrevocably agrees for the benefit of ETSI that any claim, dispute or difference concerning the present Agreement and any matter arising therefrom shall be handled exclusively under the competent Tribunal in the jurisdiction of ETSI's registered head of office in Grasse (France).

The submission to this specific jurisdiction shall not (and shall not be construed so as to) limit the right of ETSI to bring legal proceedings in any other court of competent jurisdiction including without limitation the courts having jurisdiction by reason of the Signatory's domicile.

Legal proceedings by ETSI in any one or more jurisdictions shall not preclude legal proceedings by it in any other jurisdiction, whether by way of substantive action on the merits, emergency or provisional relief, injunction, enforcement or otherwise.

17.3. Service of process

Each party agrees that without preventing any other mode of service, any document in an action (including, but not limited to, a claim form or any other document to be served pursuant to the provisions of the French Code of Civil Procedure) may be served on any party at its address for service of notices under the present Agreement and each party undertakes to notify the other party in advance of any change from time to time of the details of such address in accordance with the manner prescribed for service of notices in the present Agreement.

ANNEX 2

Identification of the ISG

Name: **ETSI ISG Network Functions Virtualization (NFV)**

Names of the ISG Founding Members:

- AT&T Global Network Services Belgium SPRL
- BT Group Plc
- Deutsche Telekom AG
- Orange SA
- Telecom Italia S.p.A
- Telefonica SA
- Verizon UK Ltd

Date of approval of the creation of the ISG by the Director-General: **23 October 2012**

Latest date of approval of the ISG term extension by the Director-General: **8 December 2022**

ANNEX 3

Authorized deviations from the ETSI Technical Working Procedures

Hereunder are the stipulated deviations from the applicable ETSI TWP as agreed by the ISG Founding Members are stipulated. The present deviations are based on v38 (February 2018) of the ETSI Directives.

Network Operators Council

Deviation #1: Network Operators Council <i>Source ref: TWP Clause 3.9.1</i> A Network Operators Council (NOC) may be constituted by the network operators who are ISG Members or ISG Participants. The NOC shall be comprised of representatives of the network operators on a voluntary basis and may provide advice to the ISG on network operator requirements.
Deviation #2: "Seeking NOC advice" <i>Source ref: TWP Clause 3.9.1</i> If Consensus cannot be achieved, the ISG Chair should in the first instance seek the views of the NOC, on a consultative basis only.

Appointment of ISG Chair/Vice-Chairs and/or Working Group Chairs

Deviation #3 "Chair/Vice-Chairs and /or WG Chair mandate duration" <i>Source ref: 3.3.1 and 3.3.2</i> The ISG Chair, Vice-Chairs and Working Group Chairs shall be appointed by ISG Members for a period of two (2) years.

Decision-making

Deviation #4 "Interpreting the result of an election" <i>Source ref: TWP Clauses 3.7, 1.7.1, 1.7.1.3, and Rules of Procedures Clause 11.4</i> For interpreting the result of an election for a ISG Chair/Vice-Chair and/or WG Chair the following procedures shall apply. When, in the first ballot, no candidate has exceeded 50% of the votes cast, a second ballot shall be held. The second ballot shall be held among the two (2) candidates who have obtained the highest number of votes in the first ballot. The candidate obtaining the higher number of votes in the second ballot is then elected.

Voting during an ISG meeting

Deviation #5 "Voting during an ISG meeting" <i>Source ref: TWP Clause 3.7 and 1.7.1.1</i> - ISG Members are eligible for voting (voting Members) if they have physically attended the last two (2) plenary meetings. - To cast their vote, voting Members shall be physically present at the meeting.

Voting by correspondence

Deviation #6 "Voting by correspondence"

Source ref: TWP Clauses 3.7 and 1.7.1.2

- ISG Members are eligible for voting (voting Members) if they have physically attended the last two (2) plenary meetings.
- For voting by correspondence electronic voting only shall be used (e.g. ETSI tool <https://portal.etsi.org/webapp/tbdecision3/Help/voting.asp>).
- The vote shall be announced to everybody on the ISG membership list at least thirty (30) days before the vote.

Appealing against an ISG Chair's decision

Deviation #7 "Appealing against an ISG Chair's decision"

Source ref: TWP Clauses 3.7 and 1.7.2

- Any member of the ISG NFV who is against the Chair's ruling on a vote may submit its case to the Director-General for decision. In such cases the member shall also inform the ISG Chair.
- When the ISG NFV Chair has made a ruling, his decision shall be taken as the basis for future operations, unless overturned by the Director-General.

Participation in the work of the ISG

Deviation #8 "Participation in the work of the ISG"

Source ref: TWP Clauses 3.4

The ISG NFV Participant Agreement may be terminated if the ISG Participant has not participated physically in at least one (1) plenary meeting of the ISG NFV in a twelve (12) month period. In this case a revocation notice under article 12.1(d) of the ISG NFV Participant Agreement is sent to the ISG Participant.

The ISG NFV Chair will periodically review the participation record of authorized Participants.

ANNEX 4

Terms of Reference (ToR) for ETSI ISG Network Functions Virtualization, (NFV)

Approved by the Director-General on **8 December 2022**, following ETSI Board consultation

Scope

The purpose of ISG NFV is to facilitate the industry transformation and the development of an open, interoperable, ecosystem enabling managing the lifecycle of virtualised network functions hosted on independently deployed and operated NFV infrastructure platforms, which can be distributed across various locations (e.g., centralised data centres, edge clouds, end-user premises, etc.).

The original target of ISG NFV consisted in providing a pre-standardisation study before considering later a broader standards proposal in a new or existing standardisation group. It was important at that stage to first clearly define, agree, and share the goals of virtualising network functions with the whole industry. This was addressed in the 2013-2014 timeframe and resulted in the publication of the first ISG NFV specifications release.

From 2015 to 2018, ISG NFV focused on producing the technical specifications for the NFV foundation technology and enhancing these technical specifications by defining a consistent operational integration with current network services. During the 2019-2022 period, the ISG focused on consolidating these technical specifications to enable more cloudification and automation related features, and addressing the additional requirements for NFV technologies brought by the evolution of telecommunications networks (e.g., 5G and beyond 5G), in close cooperation with global and regional initiatives.

From 2023 onwards, ISG NFV will continue to further consolidate technical specifications and address new functional and operational requirements brought by advances in cloud-native technology, network resources management and orchestration, network connectivity technologies, hardware and other infrastructure resources management, virtualisation and cloud technologies, as well as new use cases (e.g. for industry verticals, and for vRAN) and operational models. The ISG develops and maintains a perennial management and orchestration framework for NFV that can cope with multiple virtualisation technologies and cloud management/service solutions and adapt to their evolutions.

This will be achieved by delivering both informative documents (in the form of Group Reports, GR, and including assessments, use-case descriptions, feasibility studies, reports, etc.) and normative documents (in the form of Group Specifications, GS, and including requirements, architecture and interface specifications, information and data models, metrics and methods of measurement, interoperability test procedures, etc.) aiming at helping the industry in its quest for interoperability and operation automation.

Through these documents, ISG NFV will address technical challenges that include:

- Ensuring that virtualised network platforms will be able to support automated (and even autonomous) management of all application-independent aspects of virtualised services, ranging from the management of the infrastructure for virtualisation and the management of the virtualised resources they use to the management of the network functions they combine.
- Achieving high-performance virtualised network functions which are portable between different supporting platforms, which includes hardware, infrastructure software, and orchestration stacks.
- Achieving co-existence with legacy hardware-based network platforms whilst enabling an efficient migration path to fully virtualised network platforms.
- Catalysing the evolution of network management support systems to take full advantage of virtualisation and software-based operation techniques.
- Exploring the cloud native technologies to identify requirements and capabilities for orchestration and management framework to support scalable virtualised network functions in dynamic cloud environments to be more resilient, manageable, and observable.

- Ensuring the security of virtualised network platform from attack and misconfiguration, and their compliance with national and international regulations on privacy and security matters.
- Maintaining network stability and service levels without degradation during any event in the function's lifecycle.
- Ensuring the appropriate level of resilience to hardware and software failures, operational errors, and other anomalous events.
- Exploring the necessary enabling technologies to support the new business models made possible by network virtualisation.
- Exploring technologies enabling cross-organizational continuous integration and delivery practices in software-based virtualised environments.

Within these objectives, the ISG NFV will continue to cooperate with other standards-oriented organisations, fora, and open-source communities, to ensure the suitability of its specifications to all possible application domains and guarantee their evolution according to practical development and operation experience.

Areas of activity

The activities of ISG NFV include the following broad areas:

- Resource virtualization (storage, compute, network),
- Network Slicing,
- Hardware and software acceleration,
- Management and orchestration (of Virtualised Network Functions, of infrastructure resources, of platform as a service, etc.),
- Performance, Reliability, Resiliency,
- Architecture (component and interface definition),
- Information and data modelling,
- Protocols, Application Programming Interface,
- Open APIs, information registry and data modelling registry,
- Security, trust, attestation, regulation,
- Testing, benchmarking, continuous integration and development processes

Annex (informative): collaboration with other bodies

ISG NFV will set up and maintain appropriate communication channels to the following groups both within and outside of ETSI.

ETSI groups

- ISG MEC Multi-access Edge Computing
- OSG OSM Open-Source MANO
- ISG ZSM Zero touch network and Service Management
- ISG ENI Experiential Networked Intelligence
- OSG TFS Open-Source Group TeraFlowSDN

and others as identified during the progression of the work.

External groups

- 3GPP 3rd Generation Partnership Project
- ATIS Alliance for Telecommunications Industry Solutions
- BBF Broadband Forum
- CNCF Cloud Native Computing Foundation
- DMTF Distributed Management Task Force
- GlobalPlatform
- GSMA GSM Association
- IEEE Institute of Electrical and Electronics Engineers
- IETF Internet Engineering Task Force
- ITU-T ITU Telecommunication Standardization Sector
- Anuket Anuket project (Linux Foundation Networking)
- ONAP Open Network Automation Platform (Linux Foundation Project)
- MEF Metro Ethernet Forum
- NGMN Next Generation Mobile Networks
- OASIS Organization for the Advancement of Structured Information Standards
- OIF Optical Internetworking Forum
- ONF Open Networking Foundation
- OpenDaylight
- OpenStack OpenStack project of Open Infrastructure Foundation
- ORAN O-RAN ALLIANCE
- QuestForum
- SCF Small Cell Forum
- TCG Trusted Computing Group
- TM Forum TeleManagement Forum

and others as identified during the progression of the work.

